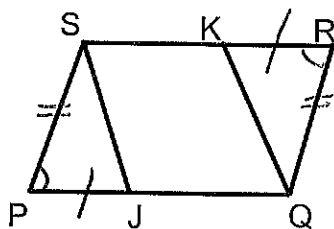


Name Key

Date \_\_\_\_\_

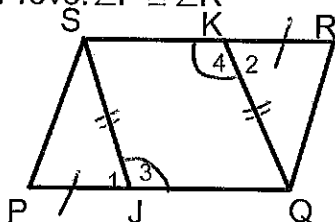
## Ch 8 Proofs: Day 1

1. Given:  $\square PQRS$ ;  $\overline{PJ} \cong \overline{RK}$   
 Prove:  $\overline{SJ} \cong \overline{QK}$



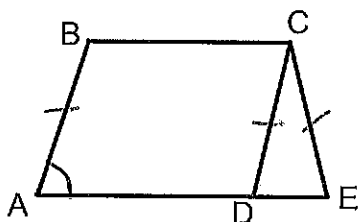
Statements	Reasons
① ~	① Given
② $\overline{SP} \cong \overline{RQ}$	② Opp sides $\square \cong$
③ $\angle P \cong \angle R$	③ Opp $\angle$ s $\square \cong$
④ $\triangle SPJ \cong \triangle QRK$	④ SAS
⑤ $\overline{SJ} \cong \overline{QK}$	⑤ CPCTC

2. Given:  $\square JQKS$ ;  $\overline{PJ} \cong \overline{RK}$   
 Prove:  $\angle P \cong \angle R$



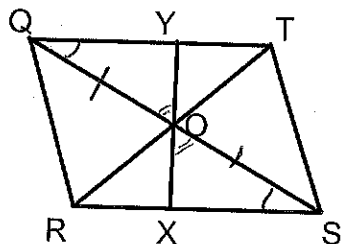
Statements	Reasons
① ~	① Given
② $\angle 3 \cong \angle 4$	② Opp $\angle$ s $\square \cong$
③ $\overline{SJ} \cong \overline{KQ}$	③ Opp sides $\square \cong$
④ $\angle 1 + \angle 3$ are Lin Pair $\angle 2 + \angle 4$ are Lin Pair	④ def of LP
⑤ $\angle 1 + \angle 3$ are suppl $\angle 2 + \angle 4$ are suppl	⑤ LFP
⑥ $\angle 1 \cong \angle 2$	⑥ Cong Suppl. Thm
⑦ $\triangle SPJ \cong \triangle QRK$	⑦ SAS
⑧ $\angle P \cong \angle R$	⑧ CPCTC

3. Given:  $\square ABCD$ ;  $\overline{CD} \cong \overline{CE}$   
 Prove:  $\angle A \cong \angle E$



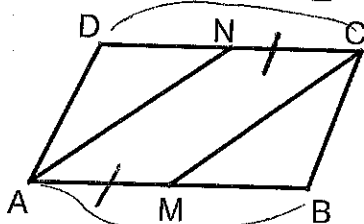
Statements	Reasons
① ~	① Given
② $\overline{AB} \parallel \overline{DC}$	② def of $\square$
③ $\angle A \cong \angle CDE$	③ Corr $\angle$ s $\parallel$ l
④ $\angle COE \cong \angle E$	④ BAT
⑤ $\angle A \cong \angle E$	⑤ Transitive

4. Given:  $\square RSTQ$   
Prove:  $\overline{OX} \cong \overline{OY}$



Statements	Reasons
① $\sim$	① Given
② $\overline{QO} \cong \overline{SO}$	② diagonal of $\square$ bisects each other
③ $\overline{QT} \parallel \overline{RS}$	③ def of $\square$
④ $\angle TQS \cong \angle RSQ$	④ Alt Int $\angle$ s $\parallel$ lines
⑤ $\angle QOY \cong \angle SOX$	⑤ Vert. $\angle$ s $\cong$
⑥ $\triangle QOY \cong \triangle SOX$	⑥ ASA
⑦ $\overline{OX} \cong \overline{OY}$	⑦ CPCTC

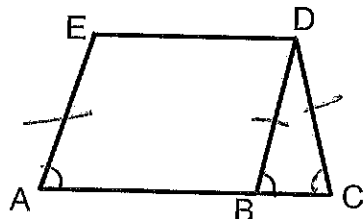
5. Given:  $\square ABCD$ ; M and N are midpoints of  $\overline{AB}$  and  $\overline{DC}$ .  
Prove:  $AMCN$  is a  $\square$



- ⑫  $\overline{AM} \cong \overline{NC}$  ⑫ def of  $\cong$   
⑬  $AMCN$  is  $\square$  ⑬ for pair of opp sides is both  $\cong$  &  $\parallel$ , the quad is a  $\square$

Statements	Reasons
① $\sim$	① Given
② $\overline{AM} \parallel \overline{NC}$	② def of $\square$
③ $\overline{AM} \cong \overline{MB}$ $\overline{DN} \cong \overline{NC}$	③ def of Midpt
④ $AM = MB$ ; $DN = NC$	④ def of $\cong$
⑤ $AM + MB = AB$ $DN + NC = DC$	⑤ SAP
⑥ $AM + MB = AB$ $NC + NC = DC$	⑥ Subs
⑦ $\overline{AB} \cong \overline{DC}$	⑦ Opp sides $\square \cong$
⑧ $AB = DC$	⑧ def of $\cong$
⑨ $2AM = AB$ $2NC = DC$	⑨ Subs
⑩ $2AM = 2NC$	⑩ Subs
⑪ $AM = NC$	⑪ def of $\cong$

6. Given:  $\overline{AE} \cong \overline{CD}$ ;  $\angle DBC \cong \angle C$ ;  $\angle A \cong \angle DBC$   
Prove:  $ABDE$  is a  $\square$



Statements	Reasons
① $\sim$	① Given
② $\overline{DB} \cong \overline{DC}$	② Conv. BAT
③ $\overline{AE} \cong \overline{DB}$	③ Subs (Trans)
④ $\overline{AE} \parallel \overline{DB}$	④ Corr $\angle$ s Conv.
⑤ $ABDE$ is $\square$	⑤ If one pair of opp sides is both $\cong$ & $\parallel$ , the quad is a $\square$